VI BA-NY'S CLAIMED INTEROFFICE DEDICATED TRANSPORT COSTS

Correction Of Ports Per Node Calculation

Q. HOW HAS BA-NY INFLATED ITS CLAIMED INTEROFFICE DEDICATED TRANSPORT COSTS?

A. By significantly understating the number of ports that must be utilized at each SONET node to provide 48 DS3s on the SONET ring, BA-NY has significantly overstated its investment per DS3, which results in substantially inflated claimed dedicated interoffice transport costs.

Q. IN WHAT WAY HAS BA-NY SIGNIFICANTLY UNDERSTATED THE NUMBER OF PORTS THAT ARE UTILIZED ON ITS SONET RINGS IN ITS COST STUDY?

A. BA-NY indicates in its interoffice dedicated transport cost study that the capacity of an OC-48 Bi-directional Line Switched Ring ("BLSR") is 48 DS3s.[59] In addition, BA-NY

[59] Workpaper Part C-1, Section 1.0, page 8 of 85, line 373. Please note that the assumption of 48 DS3s per OC-48 BLSR is actually a conservative estimate. In reality, BLSR SONET rings can actually support more than 48 DS3s depending on the number of nodes on the ring and depending on the network engineering applied. The engineering rule is simply that no cross section between two nodes on the SONET ring can exceed 48 DS3s. This engineering rule, though, can permit more than 48 DS3s on the SONET ring as a whole. In short, while the remainder of this testimony will assume BA-NY's assumption of 48 DS3s per OC-48 SONET ring (but account for this correctly), this Commission should realize that this is a very conservative assumption from a cost standpoint.

asserts that it has on average 3.76 nodes per SONET ring.[60] In order to support 48 DS3s within a SONET ring, 96 ports must be used within the SONET nodes. The reason for this is that each DS3 must have a port to enter the SONET ring at one node and a second port to depart the SONET ring at another node. Consequently, given BA-NY's assumptions of 48 DS3s per SONET ring and 3.76 nodes per SONET ring, each node must have on average approximately 26 ports.[61] BA-NY's interoffice dedicated transport cost study, however, assumes only 16 ports per node, understating the number of required ports under its analysis by 62.5 percent.[62]

Q. HOW DOES THIS IMPACT BA-NY'S COST ANALYSIS?

A. Since the bulk of the costs associated with SONET rings is a fixed cost based on physically establishing the SONET node, the vast majority of the investment must be made

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[60] Workpaper Part C-1, Section 1.0, page 8 of 85, line 372.

[61] Mathematically, the 26-port figure is derived as follows: For the 3-node scenario, the 96 ports are distributed among the 3 nodes with 32 ports (96 / 3) on average. For the 4-node scenario, the 96 ports are distributed among the 4 nodes with 24 ports (96 / 4) on average. Given the average of 3.76 nodes per ring, the 3-node scenario would occur 24 percent of the time and the 4-node scenario 76 percent of the time. Using this distribution to determine the number of ports per node yields a total of 25.92 ports per node (32 * 0.24 + 24 * 0.76). We have rounded this value to 26 ports for our analysis.

[62] It is important to note that BA-NY also uses a 75 percent fill factor as well in developing the cost for interoffice dedicated transport. This factor has not been altered in the restated cost study. However, BA-NY's understatement of the capacity of the OC-48 is only compounded by this fill factor.

irrespective of whether one DS3 is in service or 48 DS3s are in service at the particular SONET node. In performing its cost analysis, BA-NY averages this total cost across the number of ports that are assumed at the SONET node. As a result, it is vitally important to accurately determine the average number of ports per node so as to not misstate this average investment per port. By understating the number of ports per node by 62.5 percent for DS3s, BA-NY has commensurately overstated the investment per DS3 in its cost calculation, which ultimately inflated its claimed interoffice dedicated transport costs.

Q. IS BA-NY'S FLAWED ANALYSIS SIMPLY THE RESULT OF A MISCALCULATION?

A. It appears that BA-NY took the 48 DS3s per SONET ring and divided by 3 nodes (the more conservative of the whole number of nodes is surrounding the average of 3.76 nodes) and calculated 16 ports. Unfortunately, BA-NY's flawed methodological approach fails to recognize that the 16 ports that occur at one location as one-third of the DS3s on the SONET ring must also terminate at another node on the SONET ring thereby doubling the value to 32.

Q. WHY DID YOU NOT USE THE 3-NODE SCENARIO ONLY AS DID BA-NY?

A. While this approach would have yielded a lower cost, it is not consistent with the other assumptions made within BA-NY's cost study (3.76 nodes per SONET ring) - assumptions that we believe are appropriate, but should be consistently utilized within the entire cost study.

Q. DOES THIS PROBLEM AFFECT BA-NY'S CLAIMED COSTS FOR OTHER SPEEDS OF DEDICATED TRANSPORT?

A. Yes, BA-NY's flawed analysis likewise resulted in inflated cost claims for DS1 and DS0 dedicated transport because the DS3 Dedicated Transport cost study is used as the basis for the DS1 and DS0 Dedicated Transport cost studies. Consequently, the required correction to BA-NY's DS3 Dedicated Transport cost study will directly flow through into these downstream cost studies. BA-NY also made the same type of error in its STS-1 and OC3 Dedicated Transport cost studies. The correct number of ports per node for these speeds of dedicated transport using the approach

detailed above for DS3s is 26 and nine, respectively. [63] Instead, BA-NY incorrectly used 16 and 6, respectively, which substantially inflated its claimed costs.

Q. COULD YOU PLEASE SUMMARIZE THE IMPACT OF THIS CORRECTION IN BA-NY'S COST STUDY FOR THE VARIOUS FORMS OF DEDICATED TRANSPORT?

A. Yes. The following table summarizes the average investment per port before under BA-NY's incorrect analysis compared to the restatement that we have done for each of the various forms of dedicated transport. The average investment uses the same split between Fujitsu and Lucent equipment contained in BA-NY's original cost study.

Port Type	Corrected Investment Level for BA-NY's Cost Study	BA-NY's Claimed Investment Level
Lucent OC-48 - OC-3 Ports	$6,880.45	$10,224.58
Lucent OC-48 - STS-1 Ports	$2,425.05	$3,361.43
Lucent OC-48 - DS3 Ports	$2,425.07	$3,361.47
Fujitsu OC-48 - OC-3 Ports	$8,378.08	$11,252.33

[63] An OC-48 SONET ring has a capacity of 48 STS-1 circuits therefore requiring 96 STS-1 ports on the nodes of the SONET ring. An OC-48 SONET ring has a capacity of 16 OC-3 circuits therefore requiring 32 OC-3 ports on the nodes of the SONET rings. An OC-48 SONET ring has a capacity of four OC-12 circuits therefore requiring eight OC-12 ports on the nodes of the SONET rings. The remaining calculations to determine the number of ports per node for the SONET rings are then identical to those outlined for the DS3 ports.

Fujitsu OC-48 - STS-1 Ports	$2,153.68	$3,178.70
Fujitsu OC-48 - DS3 Ports	$2,143.01	$3,173.00

Correction To Permit The CLEC Election Of DCS

Q. WHY DO YOU BELIEVE THAT IT IS PERMISSIBLE UNDER THE FCC *FIRST REPORT AND ORDER* TO SEPARATELY ORDER DEDICATED TRANSPORT AND DCS?

A. There is an extensive discussion of the unbundling of DCS in the FCC *First Report and Order*. Specifically, the FCC made the following conclusion:

> Accordingly, we conclude that the section 251(d)(2)(B) requires incumbent LECs to provide access to shared interoffice facilities and dedicated interoffice facilities between the above-identified points in incumbent LECs' networks, including facilities between incumbent LECs' end offices, new entrant's switching offices and LEC switching offices, and DCSs. We believe that access to these interoffice facilities will improve competitors' ability to design efficient network architecture, and in particular, to combine their own switching functionality with the incumbent LEC's unbundled loops.[64]

With this language, the FCC requires that the new entrant be permitted to have access to DCS. It is equally true, however, that the new entrant should be permitted to elect *not* to purchase this element since technology affords other

[64] FCC *First Report and Order*, FCC Docket No. 96-325, ¶ 447.

alternatives for accomplishing the same functionality as DCS, in a much less costly manner (e.g., ATM switching).

Q. DOES BA-NY PROVIDE ACCESS TO DCS ON A SEPARATE BASIS ALREADY?

A. Yes. BA-NY has a Special Access Tariff (Tariff No. 11) that provides access to DCS functionality known as NYNEX Enterprise Network Reconfiguration Service ("ENRS"). This service permits "customers to reconfigure Special Access Services connected at Digital Cross-connect Systems."[65] Moreover, this tariff goes on to explain that the price for the network access ports on the DCS is "determined by the type of Special Access Service that is associated with the port."[66] As such, if the customer wants to connect DS3 Special Access Service to the DCS, the customer must purchase a DS3 network access port at the DCS. In short, this is precisely the approach that I would propose be utilized to establish costs for interoffice dedicated transport for unbundling. Moreover, the FCC explicitly requires that the incumbents make DCS available in the same

[65] BA-New York Special Access Tariff FCC No. 11, Section 19.1.

[66] BA-New York Special Access Tariff FCC No. 11, Section 19.4.2.

manner for unbundling that it makes it available for special access.[67]

Q. DOES THE INTERCONNECTION AGREEMENT BETWEEN AT&T AND BA-NY AFFORD THE OPPORTUNITY TO PURCHASE DCS WITH DEDICATED TRANSPORT?

A. Section 2.9.5.2 of the agreement provides that dedicated transport includes DCS as an *option* where available.

Q. DOES THE NETWORK CONFIGURATION THAT BA-NY IS USING PERMIT IT TO EASILY SEPARATE DCS FROM THE DEDICATED TRANSPORT?

A. Yes. Based on the diagrams provided by BA-NY with its cost study, BA-NY always places DSX cross-connect points on each side of the DCS. As such, the dedicated transport, which appears at the DSX, can be readily separated from the DCS, which also appears at the DSX, so that the new entrant can either purchase these two elements combined (if DCS is available) or separated.

Q. WHAT IS THE COST IMPACT OF THIS RESTATEMENT TO THE BA-NY COST STUDY?

A. Fundamentally, there is no cost impact. BA-NY had already chosen to price multiplexing as a separate element within the interoffice dedicated transport cost study. Our

[67] FCC *First Report and Order*, FCC Docket No. 96-325, ¶ 444.

restatement of BA-NY's cost study simply affects the same approach for DCS by separately developing the cost for this element from the dedicated transport element. We have made no underlying changes to BA-NY's cost for DCS. We have simply separately identified the cost for DCS for the various port types that are available on DCS.

Correction To Multiplexing Fill Factors

Q. WHAT IS THE CONCERN WITH BA-NY'S MULTIPLEXING FILL FACTORS?

A. When a CLEC purchases DS1 to DS0 multiplexing, the CLEC is purchasing the entire capacity of the DS1 multiplexing equipment. As such, BA-NY does not bear any risk if the CLEC does not utilize this entire element. In other words, if the CLEC elects to only use three of the available 24 channels, the CLEC will have paid BA-NY for the entire DS1 worth of capacity and BA-NY will bear no risk or cost associated with the multiplexing equipment not having 21 of the 24 channels used. Because of this approach to costing the multiplexing equipment, the utilization factor for the DS1 to DS0 multiplexing equipment should be 1.00.

Q. HAVE YOU APPLIED THE 1.00 FACTOR TO EVERY INVESTMENT INPUT FOR DS1 TO DS0 MULTIPLEXING?

A. No. While the discussion above is true for the multiplexing equipment, it is not true for the frame equipment where the DS1 and DS0 circuits are terminated. For these investment elements, we have retained the 75 percent fill factor used by BA-NY.

Q. HAVE YOU MADE THIS SAME CHANGE FOR DS3 TO DS1 MULTIPLEXING?

A. No. Effectively, BA-NY has not provided a cost study that is strictly for DS3 to DS1 multiplexing. Instead, BA-NY has developed the cost for using DCS to provide multiplexing functionality. While this application of DCS is a legitimate one, the purchase of this multiplexing element precludes the CLEC from the other advantages of DCS that are available in buying DCS as a separate element. Nonetheless, given that BA-NY used DCS as the underlying component to develop DS3 to DS1 multiplexing cost, the use of a fill factor less than 1.00 in this instance would be appropriate.

Summary Of Corrections To BA-NY's Interoffice Dedicated Transport Cost Study.

Q. COULD YOU PLEASE SUMMARIZE THE RESULTING INTEROFFICE DEDICATED TRANSPORT RATES THAT RESULT FROM YOUR CHANGES TO BA-NY'S COST STUDY?

A. Yes. The following table summarizes the proposed rates for interoffice dedicated transport that are derived from our restatement of BA-NY's cost study. Also, please note that these modifications also adjust the annual cost factors and overhead factors addressed in other sections of this reply testimony.

Rate Element	Monthly Recurring Rate
DS0 Dedicated Transport (Fixed)	$12.32
DS0 Dedicated Transport (Per Mile)	$0.07
DS1 Dedicated Transport (Fixed)	$24.48
DS1 Dedicated Transport (Per Mile)	$1.62
DS3 Dedicated Transport (Fixed)	$234.48
DS3 Dedicated Transport (Per Mile)	$11.10
STS-1 Dedicated Transport (Fixed)	$235.39
STS-1 Dedicated Transport (Per Mile)	$11.12
OC-3 Dedicated Transport (Fixed)	$817.70
OC-3 Dedicated Transport (Per Mile)	$36.60
OC-12 Dedicated Transport	$2,868.45

(Fixed)	
OC-12 Dedicated Transport (Per Mile)	$76.95
OC-48 Dedicated Transport (Fixed)	$3,106.30
OC-48 Dedicated Transport (Per Mile)	$9.15
Multiplexing DS1 to DS0 - Common	$111.24
Multiplexing DS1 to DS0 - Plug-In Card	$3.51
Multiplexing STS-1/DS3 to DS1	$384.58
DCS DS1 Port	$6.91
DCS DS3 Port	$161.14
DCS STS-1 Port	$161.14
DCS OC-3 Port	$378.22

ATTACHMENT 11 to this reply testimony sets forth the underlying calculations for the table set forth above.

VII BA-NY'S CLAIMED COMMON (SHARED) TRANSPORT COSTS

Q. WHAT CONCERNS DO YOU HAVE WITH BA-NY'S COMMON (SHARED) TRANSPORT COST STUDY?

A. *First*, BA-NY used as the underlying cost element for common (shared) transport (hereafter, "common transport") the cost from the dedicated transport cost study for DS1 Dedicated Transport and STS-1 Dedicated Transport. Fundamentally, there is no problem with using these elements as the underlying cost for the transport in common transport. However, given that these costs have been restated as discussed above, the resulting costs should also be incorporated into the common transport cost study.

Second, BA-NY has significantly overstated the weighted average distance between its wire centers in developing the cost for common transport.

Q. WHAT APPROACH SHOULD BE USED IN DEVELOPING THE WEIGHTED AVERAGE DISTANCE BETWEEN WIRE CENTERS?

A. BA-NY should have evaluated how its switched transport network is used to develop the average distance between its wire centers. Specifically, BA-NY should have evaluated how many minutes of transport traverse each of its cross

sections (transport between any two wire centers) and used these minutes to weight the mileages between these same cross sections. By doing this BA-NY would have developed a weighted average distance based on the number of minutes traversing its switched network.

Q. DID BA-NY USE THIS TYPE OF APPROACH TO DEVELOP ITS AVERAGE DISTANCE FOR COMMON TRANSPORT?

A. No. There is no information on precisely how BA-NY developed the distance. However, the only distance that BA-NY appears to have incorporated is the distance between one of its end offices and its tandem. The distance in this circumstance according to BA-NY is 33.4 miles. The problem with this approach is that most common transport actually traverses between two end offices where the mileage will be much shorter than 33.4 miles. In BA-NY's development of common transport, BA-NY did not account for this shorter distance, or has simply assumed that the same distance would apply for end office to end office transport as for end office to tandem transport. This, however, is not a valid assumption.

Q. DO YOU HAVE ENOUGH INFORMATION TO RESTATE BA-NY'S DISTANCES?

A. No. However, based on experience from doing these types of studies in other jurisdictions, we believe a more appropriate distance that accounts for both the common transport mileage between end offices as well as the common transport distance between and end office and a tandem is approximately 12 miles. While this mileage cannot be precisely supported from BA-NY data because we do not have it available, it is clearly a more appropriate distance than the 33.4 miles BA-NY has used *only* between its end offices and its tandem and also accounting for the relative demographic density in New York.

Q. COULD YOU PLEASE SUMMARIZE THE RESULTING RATES FOR COMMON TRANSPORT BASED ON YOUR MODIFICATIONS TO BA-NY'S COST STUDY?

A. Yes. The resulting rate for common transport is $0.000128 per minute of use. Also, please note that these modifications also adjust the annual cost factors and overhead factors that are addressed in other sections of this reply testimony. ATTACHMENT 12 to this reply testimony sets forth the underlying calculations.

Q. DOES THIS MODIFICAT COMMON TRANSPORT RATE AFFECT ANY OTHER RATE ELEMENTS PROPOSED BY BA-NY?

A. Yes. BA-NY has proposed a rate element, the Unbundled Common Transport Charge ("UCTC") that is the weighted average combination of two different unbundled elements: common transport and tandem switching. The Commission should simply be aware that to the extent that it modifies the common transport element (or the tandem switching element), the UCTC would also have to be modified. Additionally, to the extent that any reciprocal compensation elements rely on common transport, the rates for these elements will need to be modified as well to maintain internal consistency between the rate elements.

VIII BA-NY'S GRIP PROPOSAL

The FCC Prohibits The Interconnection Requirements Inherent In BA-NY'S Proposal.

Q. PLEASE BRIEFLY DESCRIBE BA-NY'S GRIP PROPOSAL.

A. BA-NY's GRIP proposal requires that the CLEC establish an interconnection point in each rate center in which the CLEC assigns telephone numbers. It also provides that BA-NY may require the CLEC to provide, at BA-NY's sole discretion, an interconnection point within each BA-NY rate center within the LATA if the CLEC cannot negotiate an alternative approach with BA-NY.

Q. DOES THE FCC AUTHORIZE BA-NY TO IMPOSE THE REQUIREMENT THAT A CLEC ESTABLISH AN INTERCONNECTION POINT IN EVERY RATE CENTER WITHIN THE LATA?

A. No. The clearest language in this regard can be found in paragraph 209 of the FCC's *First Report and Order*:

> Section 251(c)(2) gives competing carriers the right to deliver traffic terminating on an incumbent LEC's network at any technically feasible point on that network, rather than obligating such carriers to transport traffic to less convenient or efficient interconnection points. Section 251(c)(2) lowers barriers to competitive entry for carriers that have not deployed ubiquitous networks by permitting them

> to select the points in an incumbent LEC's network at which they wish to deliver traffic.[68]

The FCC emphasizes in this language that the CLEC is under no obligation to "transport traffic to less convenient or efficient interconnection points." It is precisely these less convenient or efficient interconnection points that BA-NY is attempting to mandate through the GRIP proposal. BA-NY wants to require CLECs to interconnect at every rate center in which they offer numbers. The FCC, however, expressly prohibits BA-NY from imposing such a requirement. The basis for that prohibition is simple. CLEC's would not uniformity have the ubiquitous networks that incumbent LECs have. Consequently, CLEC input is required in selecting the interconnection point. It is not that BA-NY has no say in establishing these interconnection arrangements, but BA-NY cannot mandate where the CLEC interconnects with BA-NY's network.

[68] *FCC First Report and Order*, ¶ 209, FCC Docket No. 96-325, Released August 8, 1996.

BA-NY's GRIP Proposal Undermines The Reciprocal Nature Of Compensation By Unilaterally Transferring Costs From BA-NY To The CLEC.

Q. HOW DOES BA-NY'S GRIP PROPOSAL UNDERMINE THE RECIPROCAL NATURE OF COMPENSATION?

A. BA-NY's GRIP proposal would transfer virtually all of the transport costs to the CLECs both for originating and terminating local calls. BA-NY never acknowledges as much, but when a CLEC with a switch in New York City originates a call from one of its White Plains customers that terminates to a BA-NY White Plains customer, the CLEC incurs the cost of initiating the call at its New York City switch and pays BA-NY for all of the transport and switching cost from the BA-NY tandem in New York City out to the BA-NY switch in White Plains.[69] This is the flip side - or reciprocal side - to BA-NY's criticism that BA-NY must pay that same cost when a call originates from one of its customers in White Plains that terminates to a CLEC customer in White Plains served off of the CLEC switch in New York City. In short, when the CLEC originates the call and hands it off to BA-NY, the CLEC is responsible for all of the transport and termination cost to get the call to the terminating point -

[69] This example assumes that the CLEC interconnects its network with BA-NY in New York City but still serves customers in White Plains.

a BA-NY customer. These costs (i.e., the costs for which the CLEC is responsible) include both its own cost of delivering the call to the BA-NY interconnection point and all of the costs within BA-NY's network from the interconnection point to the destination. The reciprocal is also true: when BA-NY's customer originates a call, BA-NY is responsible for the cost of delivering that call to the CLEC's switch or interconnection point and completing the call on the CLEC's network.[70]

Q. IN WHAT SPECIFIC WAY WOULD BA-NY'S GRIP PROPOSAL TRANSFER ALL OF THESE COSTS TO THE CLEC?

A. Specifically, BA-NY is trying to force the CLEC to build transport out to BA-NY's rate centers. However, the nature of this transport - that which is used for interconnection - is that it is not charged for as part of the reciprocal compensation elements in either call direction. Consequently, by requiring the CLEC to build these facilities, BA-NY would not have to transport the calls in either direction (originating or terminating). Instead, it

[70] The company originating the call is responsible for paying the terminating compensation charges within the other company's network. The facility to interconnect the two company's networks at the interconnection point is paid for separately from reciprocal compensation. The cost for this facility can either be split in some fashion as in the case of a meet-point arrangement or can be provided for through collocation. However, the interconnection facility and its associated costs are normally negotiated between the two companies.

would seek to rely on the CLEC's construction and payment for these facilities unilaterally. In short, through its GRIP proposal BA-NY would seek to transfer its side of the reciprocal cost of interconnection onto the CLECs. No legitimate basis exists for such a transfer of cost responsibility. Accordingly, BA-NY's GRIP proposal should be rejected.[71]

[71] It warrants emphasis that the Massachusetts Department of Telecommunications And Energy recently rejected BA's GRIP proposal as inconsistent with the FCC's rulings on interconnection and reciprocal compensation. Massachusetts DTE Docket 98-57, Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the following tariffs: M.D.T.E. Nos. 14 and 17, filed with the Department on August 27, 1999, to become effective on September 27, 1999, by New England Telephone Telegraph Company d/b/a Bell Atlantic-Massachusetts, Phase I Order of 3/24/2000 ("D.T.E. 98-57 Phase I Order") at 128-136.